RESISTANT SOURCES

Powdery mildew resistant genotypes in wheat and Triticale


Directorate of Wheat Research, Karnal 132 001

Key words: Resistant genotype, wheat, powdery mildew, Erysiphe graminis, Triticum aestivum, T. durum, T. dicoccum, Triticale

Powdery mildew caused by Erysiphe graminis D.C. f. sp. tritici E. Marchal is an important disease of wheat in cooler regions (northern and southern hills zones, north western plains zone) and can cause losses up to 35 percent (1). Keeping this in view, the search for resistant sources against powdery mildew was initiated at hot spot locations from 1991-92 till 2003-04 crop seasons by taking 1,386 entries of advance varietal trials (AVT) as well as international material received from CIMMYT, Mexico in wheat and Triticale, at Malan, Shimla, Dhaulakuan, Pantnagar, Majhera, Ranichauri, Palampur, Wellington and Almora centres. The lines were screened in the form of disease screening nursery under artificially inoculated conditions. The check entries, Lehmi and HD 2329 were planted all over the borders of the screening block as well as after every 20 lines of test entries. Each entry was planted in a row of 1 m length. The scoring was done on 0-9 scale where 0- denotes no disease and 9- indicates >80% disease progress vertically on plant at hard dough stage as per scale proposed by Saari and Prescott (2). The highest score along with average score was taken into consideration in categorizing the entries for resistance. The entries showing maximum score from 0-3 at different locations for three years or more were considered resistant to powdery mildew and are listed below:


CIMMYT material: BW 12788, ISWRN 152.

T. durum: HD 4633, HI 8550, NI 9075.

T. dicoccum: DDK 1009, DDK 1013, DDK 1022, NP 200.


The seed of these lines is available in gene bank at DWR Karnal. These lines may be used in breeding for powdery mildew resistance in wheat and Triticale to contain the disease at farmers field.

REFERENCES


Received for publication August 26, 2004